

REMARKS

Applicant appreciates the continued thorough examination of the present application, and the Examiner's suggestion of claim language that could overcome the outstanding rejection.

In particular, in the "Response to Arguments" of the final Official Action at Paragraph 3, the Official Action states:

Applicant's arguments filed January 31, 2002 have been fully considered but they are not persuasive. The applicant contends Farrington et al. (US 5,325,283) only teaches a switching converter providing a single output voltage [Fig. 1, V₀] across a load [Fig. 1, R_L], and thereby fails to disclose providing multiple output voltages. The examiner respectfully disagrees. Farrington's primary and secondary coils (illustrated in Fig. 2) when in operation, inherently output first and second voltages respectively. While Farrington may not explicitly designate the voltages are output for use with other external circuitry; the pending claims make no mention of such external circuitry. By such reasoning, the rejection of claims 10-16 is deemed proper and thereby maintained. (Emphasis added.)

In response, Claims 10-11 and 13-15 have been amended to clearly recite that the first DC output voltage and the second DC output voltage are "for external circuitry", as suggested by the Examiner. This is not a narrowing amendment, because it only clarifies the claim language and makes explicit what was already implicit in the specification. Accordingly, the present claims should be accorded the full range of equivalents. Moreover, this amendment also does not raise new issues because, by definition, the output voltage that already was recited is meant for external circuitry, and does not designate an internal voltage of a circuit. As was described in the prior Amendment of January 31, 2002, as clearly shown in Farrington et al. Figure 2, the Farrington et al. switching converter provides a single output voltage for external circuitry across the load R_L. The single output voltage is denoted V₀ in Figure 1 of Farrington et al.

In sharp contrast, embodiments of the claimed invention, as reflected, for example, in Figures 6 and 7 of the present application, can provide multiple output voltages for external circuitry V_{on}, V_{off} and V_{DD}, from a single input voltage V_{in}. In these embodiments, the DC output voltage for external circuitry V_{DD} is generated from the primary winding of a transformer, whereas the DC output voltages for external circuitry V_{on} and V_{off} are

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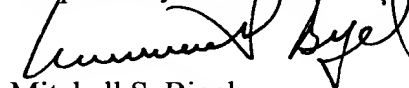
generated from the secondary coil of the transformer.

In conclusion, there should be no need for the present application to be appealed, because a patentable distinction over Farrington et al. clearly is present. The only issue present is what to call the output voltage, so as to clearly distinguish between internal voltages that are always present in an active circuit. Applicant has adopted the Examiner's suggestion so that there can be no doubt that the claimed output voltages refer to output voltages for external circuitry. Accordingly, the pending claims now are in condition for allowance.

For purposes of completeness, Applicant also incorporates the analysis from the previous Official Action that dependent Claims 11 and 15 are independently patentable. This analysis will not be repeated for the sake of brevity.

In view of the above, Applicant respectfully requests entry of this Amendment, withdrawal of the outstanding rejections and allowance of the present application.

Respectfully submitted,




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Susan E. Freedman
Date of Signature: May 17, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

The following is an addendum to the concurrently filed Amendment in response to the final Official Action dated April 18, 2002 in the above-referenced application. This addendum includes a marked-up version of the changes made to the claims by the present Amendment.

In the Claims:

Claims 10-11 and 13-15 have been amended as follows:

10. (Twice Amended) A multiple DC output voltage DC/DC converter comprising:
a transformer including a primary coil and a secondary coil that are coupled to one another by magnetic induction; and

a switch that is connected to the primary coil and that controls current switching therein;

wherein a first DC output voltage for external circuitry is generated from the primary coil and a second DC output voltage for external circuitry is generated from the secondary coil.

11. (Twice Amended) A converter according to Claim 10 further comprising a first rectifier and a second rectifier, wherein the primary coil is connected between an input voltage and the switch, wherein the first rectifier is connected to the primary coil to generate the first DC output voltage for external circuitry therefrom and wherein the second rectifier is connected to the secondary coil to generate the second DC output voltage for external circuitry therefrom.

13. (Twice Amended) A converter according to Claim 10 further comprising an inductor that is coupled across the primary coil, wherein the first DC output voltage for external circuitry is generated from the primary coil and from the inductor.

14. (Twice Amended) A multiple DC output voltage DC/DC converter comprising:
a transformer including a primary coil and a secondary coil that are coupled to one another by magnetic induction;
an inductor that is coupled across the primary coil; and
a switch that is connected to the inductor and that controls current switching therein;
wherein a first DC output voltage for external circuitry is generated from the inductor and a second DC output voltage for external circuitry is generated from the secondary coil.

15. (Twice Amended) A converter according to Claim 14 further comprising a first rectifier and a second rectifier, wherein the inductor is connected between an input voltage and the switch, wherein the first rectifier is connected to the inductor to generate the first DC output voltage for external circuitry therefrom and wherein the second rectifier is connected to the secondary coil to generate the second DC output voltage for external circuitry therefrom.